Thecus N299

User's Manual

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About This Manual

All information in this manual has been carefully verified to ensure its correctness. In case of an error, please provide us with your feedback. Thecus Technology Corporation reserves the right to modify the contents of this manual without notice.

Product name: Thecus N299
Manual Version: 1.1
Release Date: November 2007

Limited Warranty

Thecus Technology Corporation guarantees all components of Thecus N299 are thoroughly tested before they leave the factory and should function normally under general usage. In case of any system malfunctions, Thecus Technology Corporation and its local representatives and dealers are responsible for repair without cost to the customer if the product fails within the warranty period and under normal usage. Thecus Technology Corporation is not responsible for any damage or loss of data deemed to be caused by its products. It is highly recommended that users conduct necessary back-up practices.

Chapter 1: Introduction

Overview

Thank you for choosing the Thecus N299 IP Storage Server. The Thecus N299 is an easy-to-use storage server that allows a dedicated approach to storing and distributing data on a network. Data reliability is ensured with RAID features that provide data security and recovery. Two Gigabit Ethernet ports enhance network efficiency, allowing the N299 to take over file management functions. The N299's user-friendly GUI supports multiple languages, and its built-in media server and optional wireless connectivity via USB dongles allow users to share and enjoy their digital media in virtually any room of the house.

Product Highlights

File Server

First and foremost, the N299 allows you to store and share files over an IP network. With a Network Attached Storage (NAS) device, you can centralize your files and share them easily over your network. With the easy-to-use web-based interface, users on your network can access these files in a snap.

To learn about the Web User Interface, go to **Chapter 5: Using the N299 > Web User Interface**.

Media Server

The N299 can also act as a convenient media server, allowing you to enjoy and share photos, music, and movies via the uPnP AV streaming protocol.

To set up the Media Server, refer to **Chapter 4: Additional Feature Setup > Media Server**.

FTP Server

With the built-in FTP Server, friends, clients, and customers can upload and download files to your N299 over the Internet with their favorite FTP programs. You can create user accounts so that only authorized users have access.

To set up the FTP Server, refer to **Chapter 4: Additional Feature Setup > FTP Server**.

iTunes® Server

Digital music is one of the hottest trends, and with the built-in iTunes® server, you can share your digital music files with every iTunes-equipped PC on your network. The iTunes Server is also incredibly easy to set up!

To set up the iTunes Server, refer to **Chapter 4: Additional Feature Setup > iTunes Server**.

Photo Gallery

Got a lot of photos? Share them effortlessly with the N299's built-in Photo Gallery. Users can create albums and upload photos in a snap, and the N299 will even auto-create thumbnails.

To find out how to share photos with the N299, refer to **Chapter 5: Using the N299 > Using Photo Gallery**.

Backup Server

Don't leave precious data to chance. With advanced backup capabilities, you can easily upload mission critical files to the N299, and even automate your backup tasks for true peace-of-mind.

To find out how to backup your files with the N299, refer to **Chapter 5: Using the N299 > File Backup**.

Download Manager

Tired having downloads take up all of your bandwidth when you need it most? With the N299's Download Manager, you can let the N299 complete your BT, HTTP, and FTP during off-peak hours. With the N299 lower power requirements, you can even save money off your monthly power bill.

To set up the Download Station, refer to **Chapter 4: Additional Feature Setup > Download Manager**.

Printer Server

With the N299's Printer Server, you can easily share an IPP printer with other PCs connected to your network.

To set up the Printer Server, refer to **Chapter 4: Additional Feature Setup > Printer Server**.

IP Cam Surveillence Server

Keep an eye on things with the built-in IP Cam Surveillence Server. Just plug in a compatible webcam and the N299 can send snapshots to an account that you specify. Best of all, your PC doesn't even have to be turned on!

To set up the IP Cam Surveillence Server, refer to **Chapter 4: Additional Feature Setup > IP Cam Surveillence**.

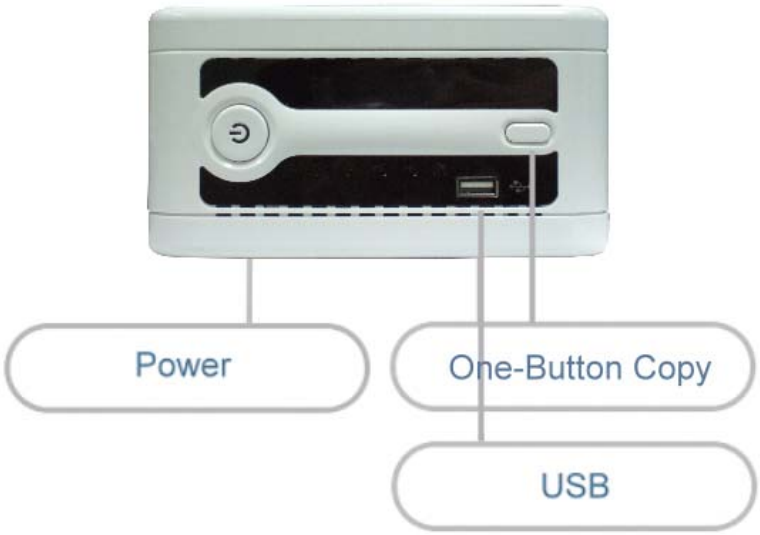
Package Contents

Your N299 package should contain the following items:

- Thecus N299 NAS Device
- Accessory Pack:
  - Power cord
  - RJ-45 Ethernet cable
  - hard disk screws
  - hard disk tray screws
  - Installation CD
  - Quick Installation Guide
  - Warranty card

Please check to see if your package is complete. If you find that some items are missing, contact your dealer.

Front Panel

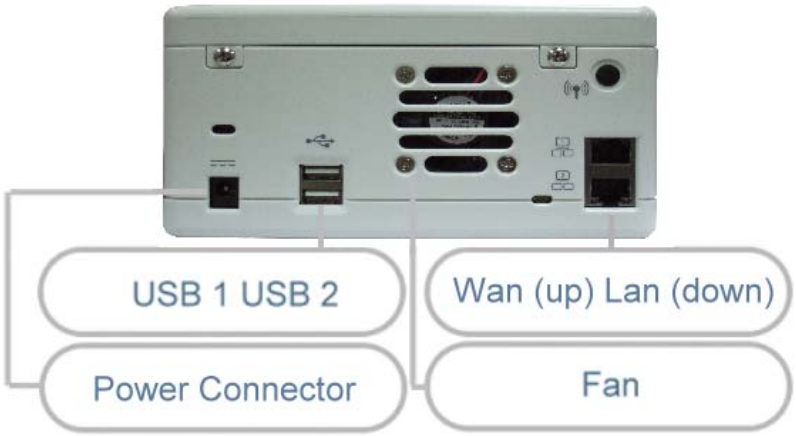


The N299's front panel displays the unit's array of status LEDs, and is also where you'll find the power button and USB port. See the table below for a detailed explanation of each:

Item	Description
Power LED	• **Solid blue:** N299 is powered on
System Status LED	• **Blinking orange:** system is starting up • **Blinking red:** system error • **Off:** system startup complete; system operating normally
HDD1 LED	• **Solid blue:** HDD 1 detected • **Blinking blue:** Active HDD 1 data transfer • **Solid red :** HDD 1 error detected • **Blinking red:** HDD 1 capacity is nearly full (90% or more) * If RAID is configured, capacity is based on the entire RAID system.
HDD2 LED	• **Solid blue:** HDD 2 detected • **Blinking blue:** Active HDD 2 data transfer • **Solid red :** HDD 2 error detected • **Blinking red:** HDD 2 capacity is nearly full (90% or more) * If RAID is configured, capacity is based on the entire RAID system.
One-Button USB Copy	• **One-Button Copy** Push once to copy entire USB volume to the N299. A short beep will sound to acknowledge that files are now being copied. Files are stored in a folder named by current time stamp: (YearMonthDayHHMM)
WAN LED	• **Solid green:** network link • **Blinking green:** network activity
LAN LED	• **Solid green:** network link • **Blinking green:** network activity
USB LED	• **USB Device Connection** o **Blinking blue** (5 seconds): USB device connected successfully. *For universal USB memory card readers, the USB LED will blink blue when one or more card is mounted successfully.

	o **Blinking red** (5 seconds): USB device connection failure • **Data Transfer** o **Blinking blue:** Active data transfer o **Blinking red:** USB device read/write error
USB Port	• USB 2.0 port for USB storage expansion.
Power Button	• Power on/off N299

Rear Panel



The rear panel of the N299 houses the USB and Ethernet connections, as well as the power connector. See the table below for descriptions of each:

Item	**Description**
Power Connector	• Connect the included power cord to this connector
WAN Port	• WAN port for connecting to an Ethernet network through a switch or router
LAN Port	• LAN port for connecting to an Ethernet network through a switch or router
USB Ports	• USB 2.0 ports for storage expansion

NOTE

There are two USB ports at the back panel of N299, you can use either one, but not two at the same time.

Chapter 2: Getting Started

Overview

Your N299 is designed for complete ease-of-use. To help you get started, the following chapter will help you get your N299 up and running in no time. Please read it carefully to prevent damaging your unit during installation.

Before You Begin

Before you begin, be sure to take the following precautions:

1. Read and understand the ***Safety Warnings*** outlined in the beginning of the manual.

2. If possible, wear an anti-static wrist strap during installation to prevent static discharge from damaging the sensitive electronic components on the N299.

3. Be careful not to use magnetized screwdrivers around the N299's electronic components.

4. The N299 uses its chassis to dissipate heat. Please leave your N299 in a well-ventilated area to prevent overheating.

Hard Disk Installation

The N299 supports standard 3.5" (SATA) hard disks. To install a hard disk into the N299, follow the steps below:

1. Remove two screws located on the back of the unit using a Philips screwdriver.

2. Unscrew four mounting screws.

3. Lift up the hard disk tray by pulling up the top panel of the N299.

4. Carefully insert a standard 3.5" SATA hard disk into the tray, and secure the hard disk with screws from the included accessory pack.

5. If you are installing two hard disks, please insert the second hard disk at the bottom of the tray and secure it with screws from the included accessory pack.

6. Carefully lower the hard disk tray back into the N299.

7. After making sure the tray is in place and the connectors are aligned, secure the hard disk tray with screws.

NOTE If your hard disk was previously part of a RAID 1 array, it will automatically rebuild. If you replace all the drives with higher capacity drives, you need to go to the Administrator login and format the drives.

Cable Connections

Make the following connections on the Thecus N299 and then power up the unit:

1. Connect an Ethernet cable from your network to the WAN port on the back panel of the N299.

2. Connect the provided power cord into the universal power socket on the back panel. Plug the other end of the cord into a surge protected socket.

3. Press the power button on the front panel to power on the N299.

4. Make sure system is running properly by checking all front panel LEDs for any error indications.

Installation Wizard

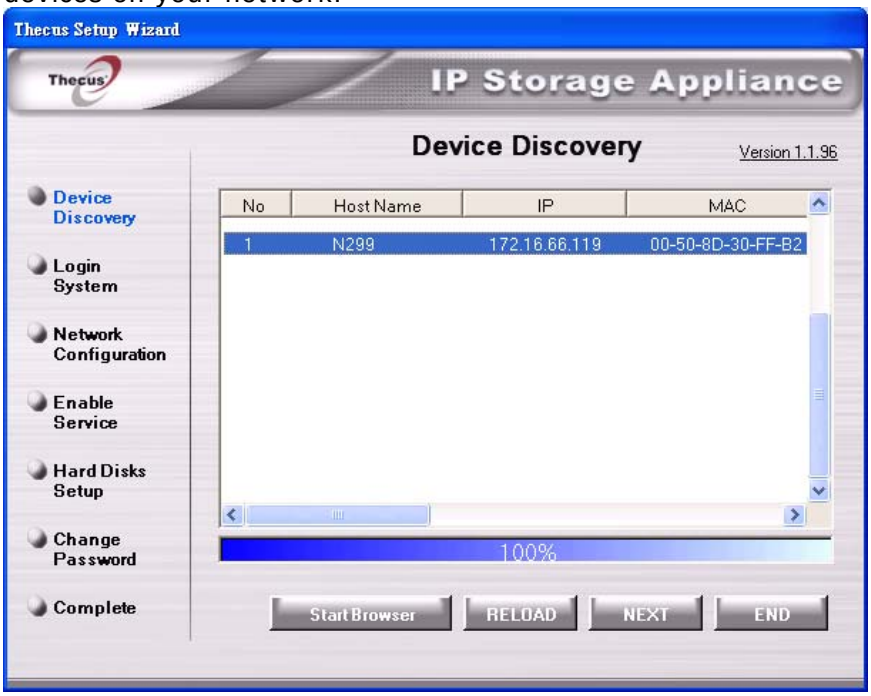
The handy Thecus Setup Wizard makes configuring N299 a snap. To configure the N299 using the Setup Wizard, perform the following steps:

1. Insert the installation CD into your CD-ROM drive (the host PC must be connected to the network).

2. The Setup Wizard should launch automatically. If not, please browse your CD-ROM drive and double click on **Setup.exe.**

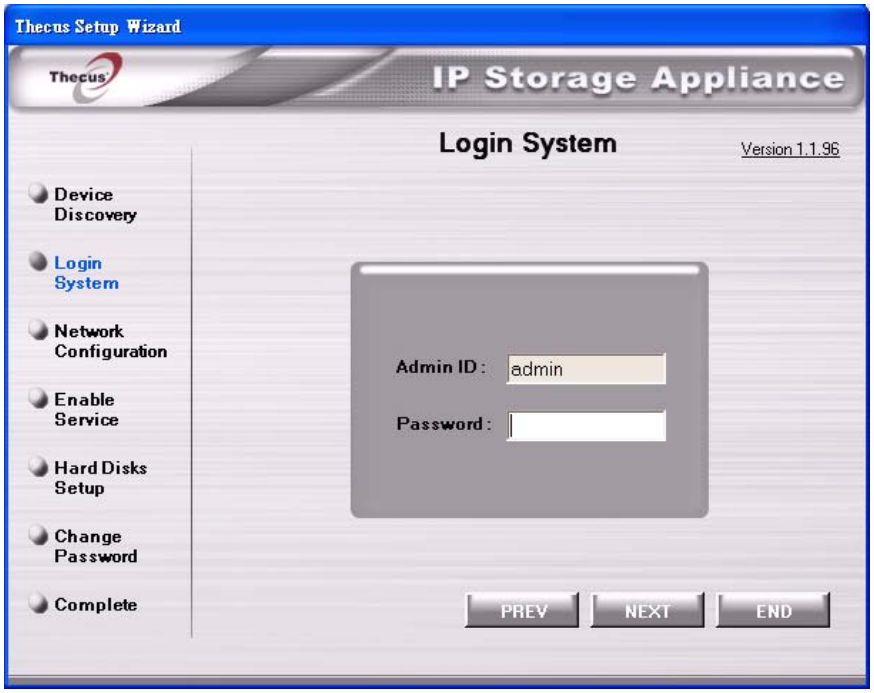
NOTE	For MAC OS X users, double click on Thecus Setup Wizard 1.1.6.dmg

3. Complete the Setup Wizard
   a. Device Discovery
   The Setup Wizard will start and automatically detect all Thecus Storage devices on your network.



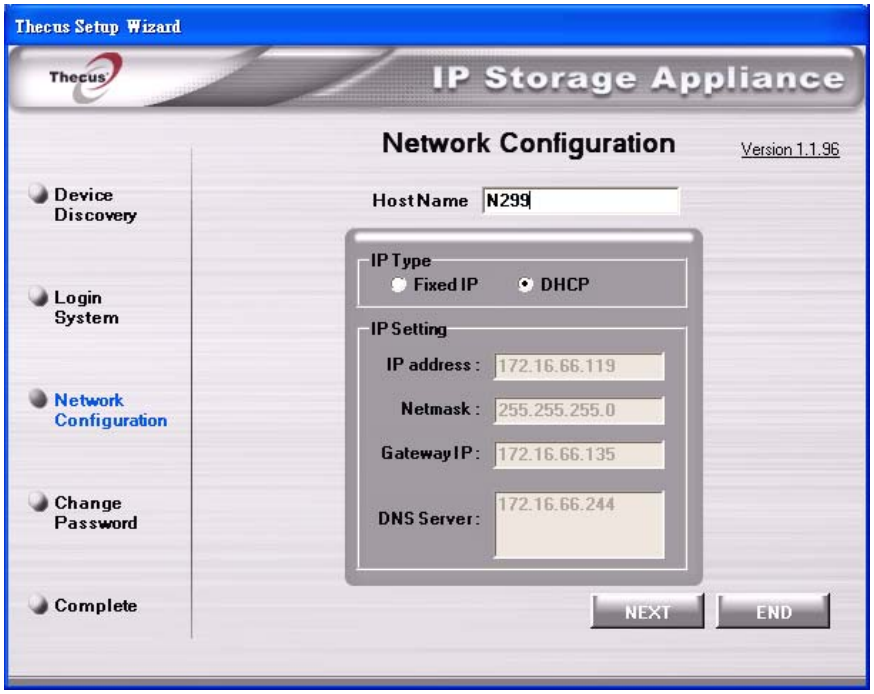
b. Login

Login into N299 with administrator's account and password.

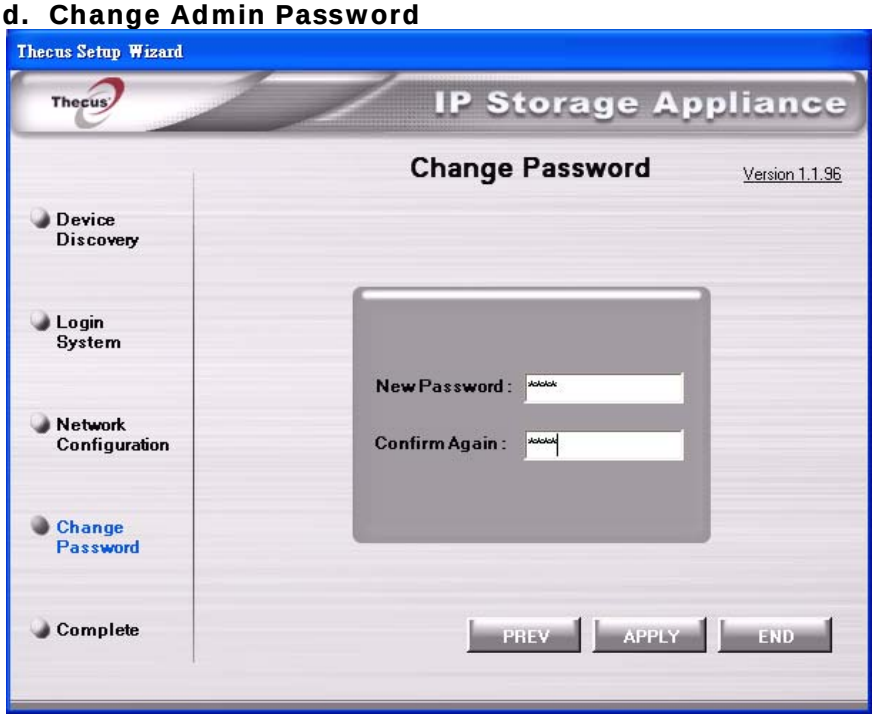


c. Network Setting

Name your N299 system and configure the network IP address. You can choose either fixed IP or DHCP.

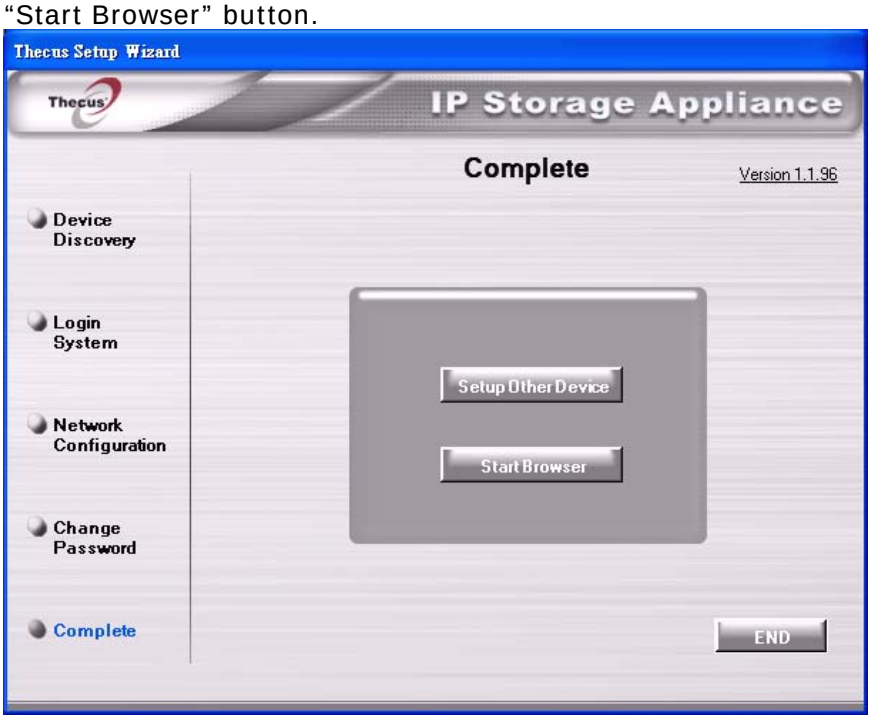


d. Change Admin Password



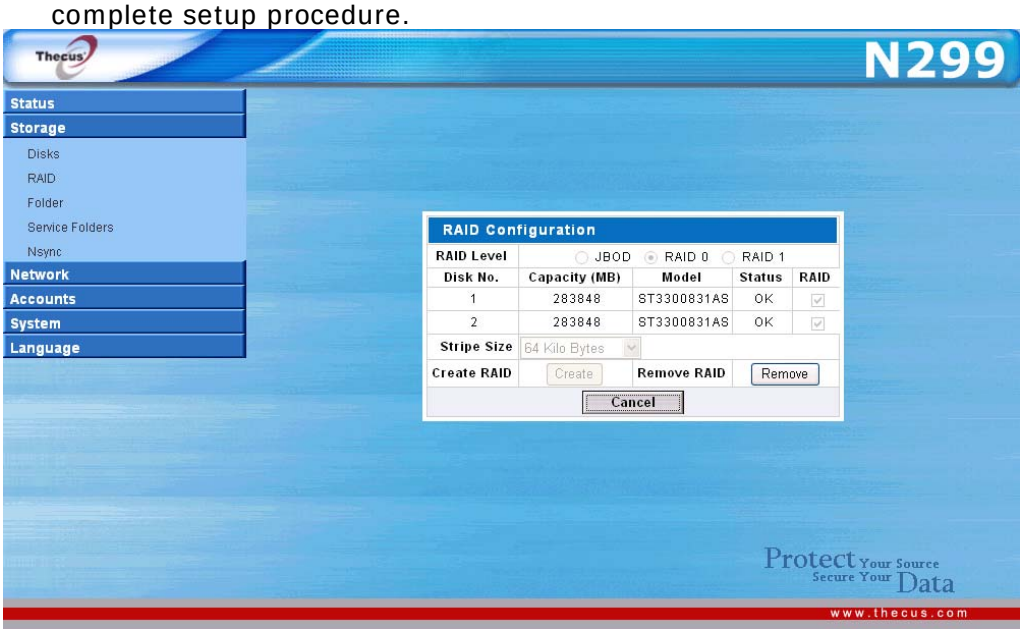
e. Start Browser

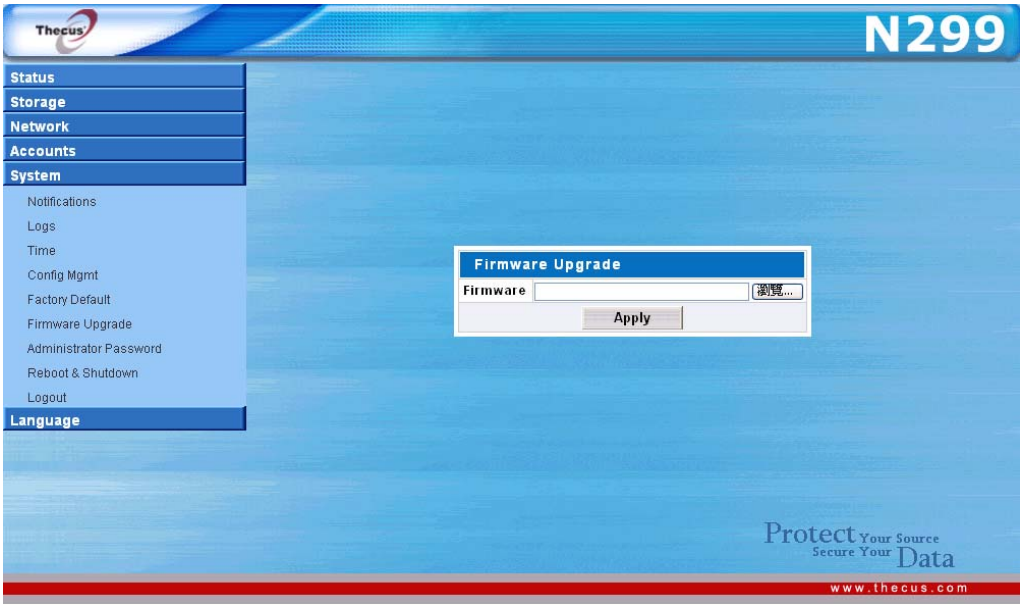
Access the current N299 administrator Web User Interface pressing the "Start Browser" button.



f. RAID and FW installation

Please config the RAID first then carry on with FW installation to complete setup procedure.





NOTE

The Thecus Setup Wizard is designed for installation on systems running Windows XP/2000 or Mac OSX or later. Users with other operating systems will need to install the Thecus Setup Wizard on a host machine with one of these operating systems before using the unit.

First Time Setup

Once the hardware is installed, physically connected to your network, and powered on, you can now configure the Thecus N299 so that it is accessible to your network users. Follow the steps below for initial software setup.

Step 1: Initial Login

Make sure your network is connected to the Internet and access the N299 Login webpage:

1. Type in the default IP address `http://192.168.1.100` in your browser's address line. If you have changed the N299's IP address, type this in instead.

   NOTE To access any IP address, your computer must be configured with the correct IP settings. The IP address should be 192.168.1.x, where x is a number between 1 and 254.

2. The **Login** screen appears.

3. To gain initial access to the system type in the factory default administrator user name and password, which are as follows:

   User Name: `admin`
   Password: `admin`

4. Press ***Login***.

5. The **About** screen from the **Status** menu appears showing product information.

Step 2: System Check and Configuration

Once logged in, you are greeted with the Web Administration Interface, where you can check the N299's status, as well as configure its operating parameters.

1. In the **Status** menu, choose the ***System*** item to go to the **System Status** screen. Check that the basic system information such as CPU loading and Fan RPM are all OK.

2. In the **Status** menu, choose the ***Info*** item to go to the **System Information** screen. Change the System Description to describe your system and press ***Apply***. This information appears on the **Login** page.

3. In the **System** menu, choose the ***Administrator Password*** item. The screen that appears lets you change the administrator password for the system. Press ***Apply*** to confirm your settings.

4. In the **System** menu, choose the ***Time*** item and the **Time** screen appears. Set the date, time and time zone and press ***Apply***.

Step 3: Configure Network Settings

After setting the N299's basic configuration options, the next step is to configure its network settings.

1. In the **Network** menu, choose the ***WAN*** item and the **Network Configuration** screen appears.

2. Set host name and specify the domain name.

3. **Enable DHCP** for setting the IP automatically or **Disable DHCP** to enter your own IP settings.

4. Repeat steps 2 and 3 for the **LAN** item under the **Network** menu to configure the LAN port.

5. In the **Network** menu, choose the ***Service*** item and the **Service Support** screen appears.

6. **Enable** or **Disable** each protocol according to your requirements. Press ***Apply*** to confirm the setting.

NOTE

- For normal usage, enabling all protocols is recommended.
- For added security, disable WebDisk support and enable Secure WebDisk support.
- If DHCP is enabled in the Network Settings screen, UPnP is automatically enabled.

For details on configuring your network settings, refer to **Chapter 3: System Management > Network Management**.

Step 4: Select RAID Level

Once the network is configured, you should then select the appropriate RAID level and build your RAID array.

1. From the **Storage** menu choose ***RAID*** item and the **RAID Information** screen appears. Press the ***Config*** button and the **RAID Configuration** screen appears.

2. Select your desired RAID mode.

NOTE

If security is your primary concern, for 2 disks, choose RAID 1. If capacity is your primary concern, choose JBOD or RAID 0. See Appendix C for more information.

3. Check the hard disks you wish to create a RAID on. Specify a stripe size—64K is a normal setting.

4. Press the ***Create*** button to build the RAID storage volume. Configuring RAID is usually only required for initial setup.

NOTE

Building a RAID storage space may take time, depending on the size of hard drives and RAID mode.

Step 5: Create Local Users and Groups

After your RAID is built, you can begin to create local users and groups for the N299.

1. From the **Accounts** menu, choose ***Users*** item and the **Local User Configuration** screen appears. Click ***Add*** to add a new user.

2. Enter a name and password for each user in the **Name** and **Password** boxes and re-enter the password in the **Confirm Password** box.

3. Press the ***Apply*** button for each user and they will be added to the user list.

4. From the **Accounts** menu, choose ***Groups*** item and the **Local Group Configuration** screen appears. Click ***Add*** to add a new group.

5. Enter a group name in the Group Name box and click ***Apply*** to add the group to the group list.

For more on managing users, go to **Chapter 3: System Management > User and Group Management**.

Step 6: Create Folders and Set Up ACLs

Once users are introduced into your network, you can begin to create various folders on the N299 and control user access to each using Folder Access Control Lists.

1. From the **Storage** menu, choose the ***Folder*** item and the **Folder** screen appears. Press the ***Add*** button and the ***Add Folder*** screen appears.

2. Enter the name and description of the folder and choose whether it is browseable. Press ***Apply*** to create the folder.

3. On the **Folder** screen press ***ACL*** (Access Control List) to configure which users have access to this folder.

4. On this screen, configure access to this folder for users and groups. Select a user or a group from the left hand column and then choose ***Deny Access***, ***Read Only***, or ***Writable*** to configure their access level. Press ***Apply*** to confirm settings.

NOTE You must set the ACL for each folder for access by specific users and groups; otherwise the folder is inaccessible to all users and groups.

For more information on managing folders, see **Chapter 3: System Management > Storage Management > Folder Management**.

To find out about configuring Folder Access Control Lists, see **Chapter 3: System Management > Storage Management > Folder Management > Folder Access Control List (ACL)**.

Step 7: Start Services

Finally, you can start to setup the different services of the N299 for the users on your network. You can find out more about each of these services by clicking below:

Windows Networking
Apple File Protocol (AFP)
FTP Server
iTunes® Server
Photo Gallery
Media Server
Download Manager
Printer Server
IP Cam Surveillance Server

Chapter 3: System Configuration

Overview

The N299 provides an easily accessible web management interface. With it, you can configure and monitor the N299 anywhere on the network.

Web Administration Interface

Make sure your network is connected to the Internet. To access the N299 **Login Page**:

1. Type the N299's IP address into your browser. (Default IP address is `http://192.168.1.100`)

NOTE Your computer's network IP address must be on the same subnet as the N299. If the N299 has default IP address of 192.168.1.100, your managing PC IP address must be 192.168.1.x, where x is a number between 1 and 254, but not 100.

2. Login to the system using the administrator user name and password. The factory defaults are:

   User Name: `admin`
   Password: `admin`

   If you changed your password in the setup wizard, use the new password.

Once you are logged in as an administrator, you will see the **Web Administration Interface**. From here, you can configure and monitor virtually every aspect of the N299 from anywhere on the network.

Menu Bar

The **Menu Bar** is where you will find all of the information screens and system settings of the N299. The various settings are placed in the following groups on the menu bar:

Menu Bar	
Item	**Description**
Status	Current system status of the N299.
Storage	Information and settings for storage devices installed into the N299.
Network	Information and settings for network connections and services, as well as various services of the N299.
Accounts	Allows configuration of users and groups.
System	Various N299 system settings and information.
Language	Choose your preferred language here.

Clicking on any of these items will display the dropdown menu selections for each group.

In the following sections, you will find detailed explanations of each function, and how to configure your N299.

Language Selection

The N299 supports multiple languages. On the menu bar, click ***Language*** and the **Change Language** screen appears. This screen allows you to select preferred language for the N299. The N299's interface supports the following languages:

- English
- Simplified Chinese
- Traditional Chinese
- German
- French
- Italian
- Japanese
- Korean
- Spanish

Press ***Apply*** to confirm your selection.

Language Package Upload and Management

You can also upload additional language packs as they become available. To do this, press ***Upload*** and the **Language Package Upload / Management and User Upload Language Package List** screens appear.

To upload a language package, click ***Browse*** and browse for the language package location. Select the language package file and click ***Open***. Then, click ***Apply*** to upload the language package to the N299. Once uploaded, the language package will appear in the **User Upload Language Package List**.

User Upload Language Package List	
Item	**Description**
Product	Name of language package.
Version	Language package version number.
Description	Language package description.
Remove Package	Click ***Remove*** to remove the selected language package.

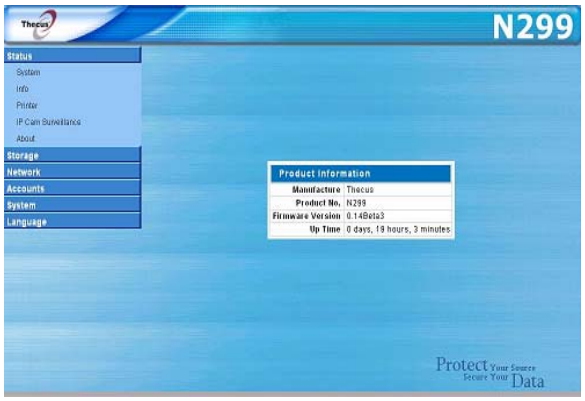
Status Menu

The **Status** Menu on the menu bar allows you to see various aspects of the N299. From here, you can discover the status of the N299, and even find out other details like firmware version and up time.

Product Information

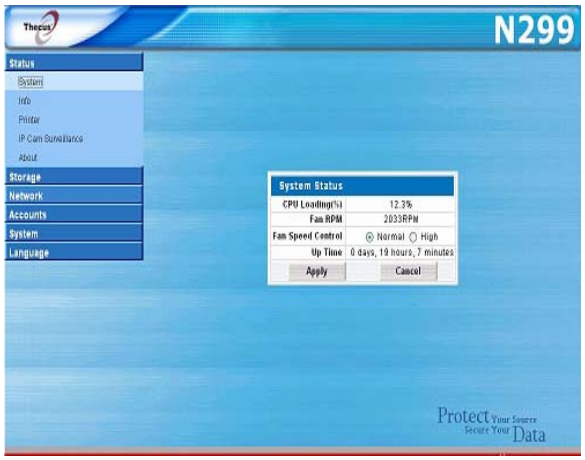
Once you login, you will first see the basic **Product Information** screen providing **Manufacturer**, **Product No.**, **Firmware Version**, and **Up Time** information.

To access this screen again, navigate to ***Status*** > ***About***.



System Status

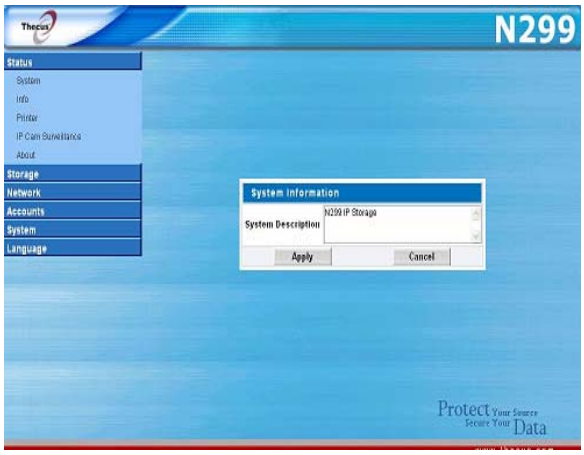
From the **Status** menu, choose the ***System*** item, and the **System Status** screen appears. This screen provides basic system status information.



System Status	
Item	**Description**
CPU Loading (%)	Displays current CPU workload of the N299.
Fan RPM	Displays current RPM of the internal fan.
Fan Speed Control	You may select a desired fan speed from here. **Normal** and **High** fan speeds are available. Click ***Apply*** to save your changes.
Up Time	Shows how long the system has been running.

System Information

From **Status** menu, choose the ***Info*** item, and the **System Information** screen appears. You can change the system information that appears on uPnP devices screens (i.e. Network Neighborhood) on Windows-based systems by entering the new information here and pressing ***Apply*** to confirm.



System Information	
Item	**Description**
System Description	Shows the system description that would also appear on the Login page.

Printer Status

NOTE

In order to use the Printer Server, you must first install the Printer Server module located on the installation CD. Once installed, the Printer Status option will appear on the Main Menu. See Chapter 4: Additional Feature Setup > Print Server for more details.

From the **Status** menu, choose the ***Printer*** item, and the **Printer Information** screen appears. The Printer Information screen provides the following information about the USB printer connected to the USB port.

Printer Information	
Item	**Description**
Manufacturer	Displays the name of the USB printer manufacturer.
Model	Displays the model of the USB printer.
Status	Displays the status of the USB printer.
Printer Queue	Click to remove all documents from printer queue

If a corrupt print job is sent to a printer, printing may suddenly fail. If your print jobs seem to be locked up, pressing the ***Remove All Documents*** button to clear the print queue may resolve the issue.

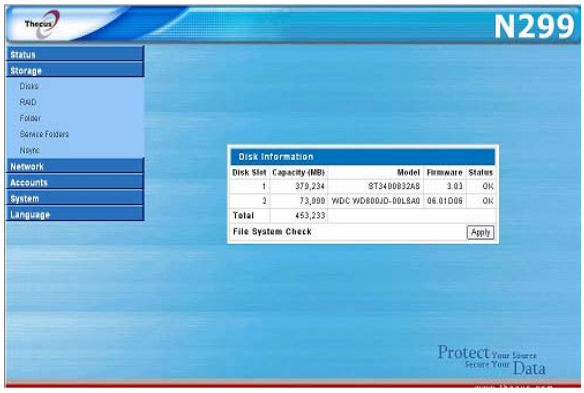
For information on how to set up the Printer Server, refer to **Chapter 4: Additional Feature Setup > Printer Server**.

Storage Management

The **Storage Menu** displays the status of storage devices installed or connected to the N299, including disk and RAID information.

Disk Information

From the **Storage** menu, choose the ***Disks*** item and the **Disk Information** screen appears. From here, you can see various items about installed SATA hard disks. Blank lines indicate that a SATA hard disk is not currently installed in that particular disk slot.

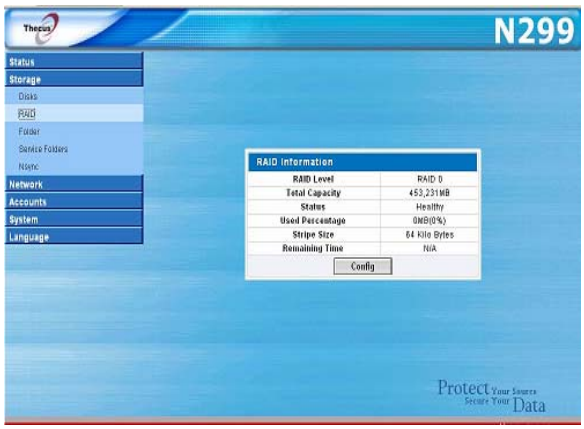


SATA Information	
Item	**Description**
Disk Slot	Indicates disk location.
Capacity (MB)	Shows the SATA hard disk capacity.
Model	Displays the SATA hard disk model name.
Firmware	Shows the SATA hard disk firmware version.
Status	Indicates the status of the disk. Can read **OK**, **Warning**, or **Failed**.
Total	Shows the total SATA hard disk capacity.
File System Check	Click ***Apply*** to run a file system check on installed hard disks.

NOTE Some services will scan the content directories, and this will keep the hard disk drive from spinning down.

RAID Information

From the **Storage** menu, choose the ***RAID*** item and the **RAID Information** screen appears.



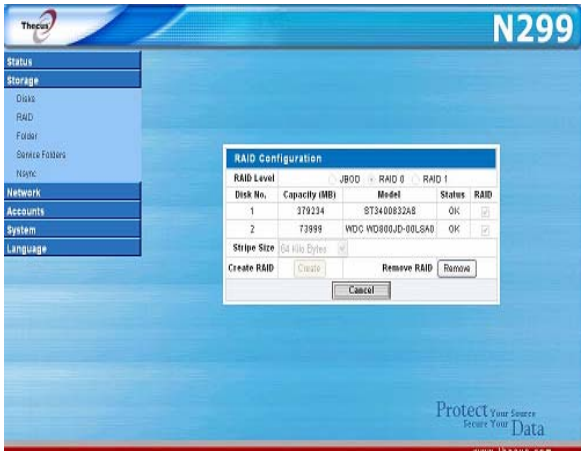
RAID Information	
Item	**Description**
RAID Level	Shows the current RAID configuration.
Total Capacity	Shows total capacity of the RAID configuration.
Status	Indicates status of the RAID. Can read either ***Healthy*** or ***Failed***.
Used Percentage	Displays percentage of used RAID capacity.
Stripe Size	Shows the current disk stripe size.
Remaining Time	Indicates time remaining until the RAID is finished building.

To configure your RAID settings, press the ***Config*** button to go to the **RAID Configuration** screen.

RAID Configuration

On the **RAID Information** screen, press the ***Config*** button to go to the **RAID Configuration** screen. In addition to RAID disk information and status, this screen lets you make RAID configuration settings.

For more information on RAID, see **Appendix C: RAID Basics**.



RAID Level

You can set the storage volume as either **None**, **JBOD**, **RAID 0**, or **RAID 1**. RAID configuration is usually required only when you first set up the device. A brief description of each RAID setting follows:

RAID Levels	
Level	**Description**
None	There is no existing storage volume.
JBOD	The storage volume is a single HDD with no RAID support. JBOD requires a minimum of 1 disk.
RAID 0	Provides data striping but no redundancy. Improves performance but not data safety. RAID 0 requires a minimum of 2 disks.
RAID 1	Offers disk mirroring. Provides twice the read rate of single disks, but same write rate. RAID 1 requires a minimum of 2 disks.

WARNING If the administrator improperly removes a hard disk that should not be removed when RAID status is degraded, all data will be lost.

Disk Settings

Using **Disk Settings**, you can select stripe size, choose which disks are RAID disks.

Disk Settings	
Item	**Description**
RAID	Check the boxes of the hard drives you wish to add to the storage volume.
Stripe Size	This sets the stripe size to maximize performance of sequential files in a storage volume. Keep the 64K setting unless you require a special file storage layout in the storage volume. A larger stripe size is better for large files.
Create RAID	Press this button to configure a file system and create the RAID storage volume.
Remove	Click to remove the RAID volume. All user data, snapshot, and Target USB data will be removed.

Creating a RAID

To create a RAID volume, follow the steps below:

1. On the **RAID Configuration** screen, set the RAID storage space as **JBOD**, **RAID 0**, or **RAID 1** — see **Appendix C: RAID Basics** for a detailed description of each.
2. Tick the checkboxes of the hard disks you wish to use to create a RAID.
3. Specify a stripe size — 64K is the default setting.
4. Press ***Create*** to build the RAID storage volume.

NOTE Building a RAID storage space may take time, depending on the size of hard drives and RAID mode.

WARNING Creating RAID destroys all data in the current RAID. The data is unrecoverable.

Deleting a RAID

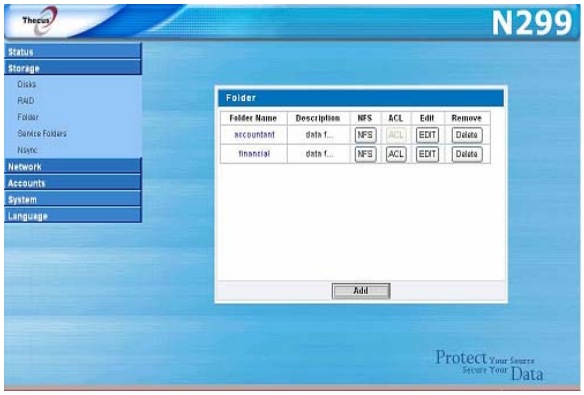
To delete a RAID volume, follow the steps below:

1. On the **RAID Configuration** screen, click ***Remove***.
2. The system automatically removes the RAID volume and you can create a new RAID.

WARNING Removing RAID destroys all data in the current RAID. The data is unrecoverable.

Folder Management

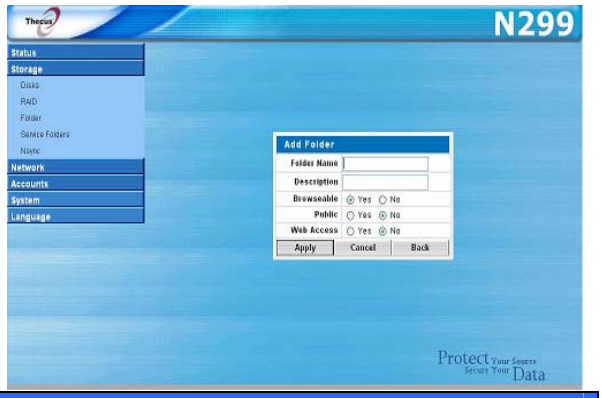
From the **Storage** menu, choose ***Folder***, and the **Folder** screen appears. This screen allows you to create and configure folders on the N299 volume.



Folder	
Item	**Description**
Folder name	Displays the name of the folder.
Description	Provides a description of the folder.
NFS	Press **NFS** to setup access privilege.
ACL	Press ***ACL*** (Access Control List) to configure which users have access to this folder.
Edit	Press ***Edit*** to enter the **Edit** screen and modify the folder's name and description.
Del	Press ***Del*** to delete the folder. A screen appears asking to confirm the deletion.
Remove	Press **Remove** to delete folder.
Add	Press ***Add*** to enter the **Add Folder** screen.

Adding Folders

On the **Folder** screen, press the ***Add*** button and the **Add Folder** screen appears. This screen allows you to add a folder. After entering the information, press ***Apply*** to create new folder. Press ***Back*** to return to the **Folder** screen.



Add Folder	
Item	**Description**
Folder Name	Enter the name of the folder.
Description	Provide a description the folder.
Browseable	Enable users to browse the folder content.
Public	Admit or deny public access to this folder.
Web Access	Admin or deny access through web disk.
Apply	Press ***Apply*** to create the folder.
Reset	Press ***Reset*** to clear entered data.

NOTE Folder names are limited to 60 characters. Systems running Windows 98 or earlier may not support file names longer than 15 characters.

Editing Folders

On the **Folder** screen, press the ***Edit*** button and the **Edit Folder** screen appears. This screen allows you to change folder information. After entering the information, press ***Apply*** to apply the changes. Press ***Back*** to return to the **Folder** screen.

Edit Folder	
Item	**Description**
Description	Provide a description the folder.
Browseable	Enable users to browse the folder content.
Public	Admit or deny public access to this folder.
Web Access	Admin or deny access through web disk.
Apply	Press ***Apply*** to save your changes.
Cancel	Press ***Cancel*** to disregard entered data
Back	Press ***Back*** to return to upper page.

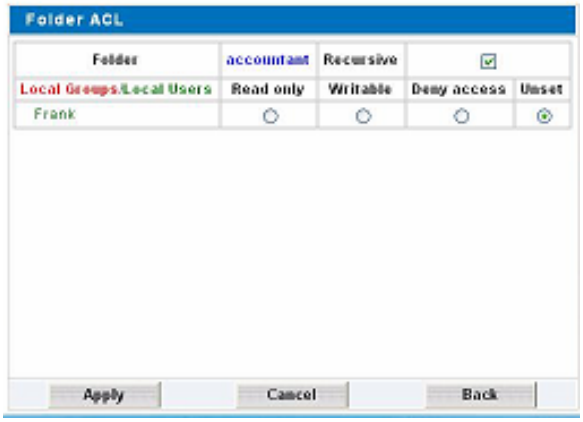
Deleting Folders

To delete a folder, press the ***Del*** button from the specified folder row. The system will confirm folder deletion. Press ***OK*** to delete the folder permanently or ***Cancel*** to go back to the folder list.

WARNING All the data stored in the folder will be deleted once the folder is deleted. The data will not be recoverable.

Folder Access Control List (ACL)

On the **Folder** screen, press the ***ACL*** button, and the **Folder Access Control List (Folder ACL)** screen appears. This screen allows you to configure access to the specific folder for users and groups. Use the ***Read only***, ***Writable, Deny access***, or ***Unset*** radio buttons to configure access levels for listed users and groups. Press the ***Apply*** button to confirm your settings.

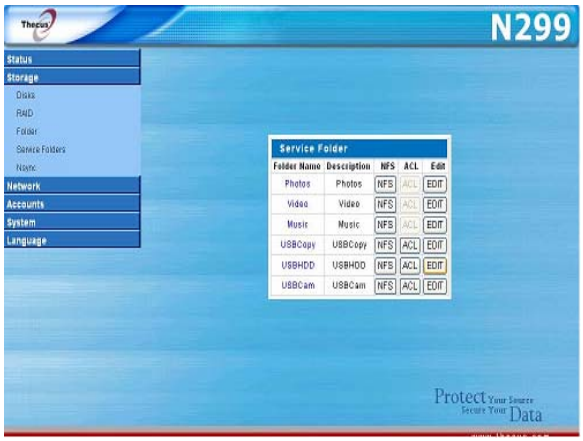


Folder ACL	
Item	**Description**
Folder	Current folder name
Recursive	Check this box if you want your settings to also apply for all subfolders in current folder.
Local Groups/Local Users	Names of local groups and local users. Local groups are displayed in red, while local users are displayed in green.
Read Only	Provides Read Only access to users or groups.
Writable	Provides Write access to users or groups.
Deny	Denies access to users or groups.
Unset	Resets current user's/group's access privilages.
Apply	Click ***Apply*** to save your changes.
Cancel	Click ***Cancel*** to exit without saving changes.
Back	Click ***Back*** to return to the **Folder** screen.

Service Folders

The N299 automatically creates folders for its built-in applications.

To manage these service folders, select ***Service Folder*** from the **Storage** menu. Press ***NFS*** to setup access privilege. Press ***Edit*** to edit these folders. Press ***ACL*** to control access to these folders via the **Access Control List**.



Service Folders	
Folder Name	**Description**
Photos	Default directory for your photos.
Video	Default directory for your video files.
Music	Music for the iTunes Server is located here. The iTunes server will share the music located in this directory.
USBCopy	Contents copied from the One-Touch USB Copy function are stored here.
USBHDD	Contents copied from USB hard disks are stored here.
IPCam	Stored still frames from the Simple Surveillance Server are stored here.

Network Management

Use the **Network** menu to make network configuration settings as well as service support settings.

WAN Configuration

From the **Network** menu, choose ***WAN***, and the **WAN Configuration** screen appears. This screen displays the network parameters of the WAN connection. You may change any of these items and press ***Apply*** to confirm your settings. You can see a description of each item in the following table:

WAN Configuration	
Item	**Description**
Host name	Host name that identifies the N299 on the network.
Domain name	Specifies the domain name of the N299.
MAC Address	Display the WAN port MAC address.
Jumbo Frame Support	Enable or disable Jumbo Frame Support of the WAN interface on your N299.
Connection Type	The WAN IP can be set to a Static IP, Dynamic IP, or PPPoE. **Static:** Administrator has to enter IP, Netmask, Gateway, DNS Server fields. **Dynamic:** If there is already a DHCP server on your network, you can let the DHCP server assign an IP address to your N299. NOTE: If this is set to Dynamic, but a DHCP server is not detected on the WAN network, the IP address of the N299 will reset to the default setting of `192.168.1.100`. **PPPoE:** The N299 can also support a direct connection to an ASDL modem through PPPoE. Once selected, you will need to enter a User Name and Password.
User Name	Enter your user name for PPPoE connection. (PPPoE only)
Password	Enter your password for PPPoE connection. (PPPoE only)
IP	IP address of the WAN interface.
Netmask	Network mask, which is generally: `255.255.255.0`
DNS Server	Domain Name Service (DNS) server IP address.
IP Sharing Mode	When enabled, traffic on the LAN will be directed to the WAN. Default is **Disabled**.
PPPoE Connect	Connect or disconnect from a PPPoE connection. (PPPoE only)

NOTE

- Only use Jumbo Frame settings when operating in a Gigabit environment where all other clients have Jumbo Frame Setting enabled.
- Enabling DHCP automatically turns on UPnP — See the **Service Support** Screen.
- If you are only using the WAN port, we suggest that you disable IP Sharing Mode. This will result in higher throughput.
- A correct DNS setting is vital to networks services, such as SMTP and NTP.

WARNING

Most Fast Ethernet (10/100) Switches/Routers do not support Jumbo Frame and you will not be able to connect to your N299 after Jumbo Frame is turned on. If this happens, turn off the N299. Then, power on the N299 and immediately press and hold the Reset button on the front of the unit for 10 seconds. This will reset your network settings, password, and turn off Jumbo Frame Support.

LAN Configuration

The N299 supports a second Ethernet port for higher service availability. To configure these ports, choose ***LAN*** from the **Network** menu, and the **LAN Configuration** screen appears. Press ***Apply*** to save your changes.

LAN Configuration	
Item	**Description**
MAC Address	Displays the MAC address of the LAN interface.
Jumbo Frame Support	Enable or disable Jumbo Frame Support on the LAN interface.
IP	Specifies the IP address of the LAN interface.
Netmask	Specifies the Network Mask of the LAN interface.
DHCP Server Configuration	
Item	**Description**
DHCP Server	Enable or disable the DHCP server to automatically assign IP addresses to PCs connected to the LAN interface. Default is **Disabled**.
Start IP	Specifies the starting IP address of the DHCP range.
End IP	Specifies the ending IP address of the DHCP range.
DNS Server	Specifies the DNS server IP address.
Apply	Click ***Apply*** to save your changes.
Cancel	Click ***Cancel*** to abandon your changes.

NOTE

- Before enabling Jumbo Frame Support, please make sure your network equipment supports Jumbo Frame. If your equipment is incompatible, you might not be able to connect to your N299. In this case, you have to reset the system back to default by the holding down front panel reset button for 5 seconds during boot up process.
- The IP Segment of WAN and LAN should not overlap.

DD

WARNING

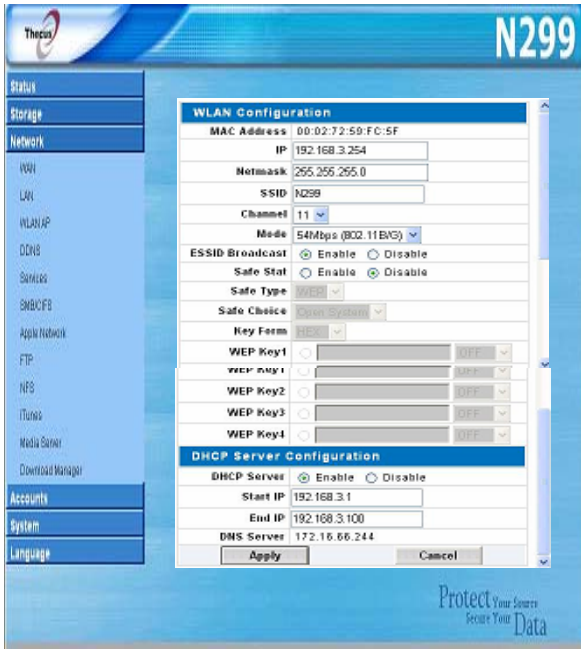
NS Configuration

The N299 also features Dynamic DNS support. To configure DDNS, choose ***DDNS*** from the **Network** menu. Press ***Apply*** to confirm your settings.

DDNS Support	
Item	**Description**
Register	Support www.dyndns.org, www.zoneedit.com, www.tzo.com
User Name	Input user name that you have register in DDNS domain.
Password	Input password that you have register in DDNS domain.
Domain Name	Input registered domain name.
Apply	Click ***Apply*** to save your changes.
Cancel	Input Click ***Cancel*** to abandon your changes.

WLAN Configuration

When a compatible wireless USB dongle is installed on the N299, the N299 will become an access point, and the **Network** dropdown menu will contain a **WLAN** menu item. From the **Network** menu, choose ***WLAN***, and the **WLAN Configuration** screen appears. This screen displays the wireless network parameters of the system. You can to change any of these items and press ***Apply*** to confirm your settings.



NOTE

- Currently supported USB wireless dongles are: 3Com 3CRUSB10075, Zyxel G220USB, PCI GW-US54mini.
- USB dongles have to be connected before N299 is powered up.

WLAN Configuration	
Item	**Description**
MAC Address	Displays the MAC Address of the USB wireless dongle.
IP	Specifies the IP address of the network connection.
Netmask	Specifies the network mask, which is generally: 255.255.255.0
ESSID	The ESSID (Extended Service Set Identification) is the identifying name of a wireless network.
ESSID Broadcast	Specifies whether the ESSID will be broadcasted by the N299. This will prevent the Access Point from broadcasting the ESSID. The N299 will still respond to a wireless device that LAN1ts to communicate if it sends a matching ESSID.
Channel	The channel that the N299 uses to communicate with client devices.
Auth Mode	Authentication mode used by the N299. **Shared:** Shared key authentication **Open:** Open key authentication
WEP Enable	Specifies whether to use encryption for transmission or not.
Key Length	Key length specifies the level of encryption used by the N299. 64 bit: 10 characters from 0 ~ 9 and A ~ F. 128 bit: 26 characters from 0 ~ 9 and A ~ F.
WEP KEY 1	Input up to 4 WEP keys, and select the one you wish to use. When connecting, be sure to enter the same key and select the same index number on each client machine.
WEP KEY 2	
WEP KEY 3	
WEP KEY 4	

A DHCP server can be configured to assign IP addresses to wirelessly connected devices.

WLAN DHCP Configuration	
Item	**Description**
DHCP Server	Select to enable or disable DHCP server.
Start IP	Specifies the starting IP address of the DHCP range.
End IP	Specifies the ending IP address of the DHCP range.
DNS Server	Specifies the DNS server IP address.

NOTE

The IP Segment of WLAN, WAN and LAN should not overlap.

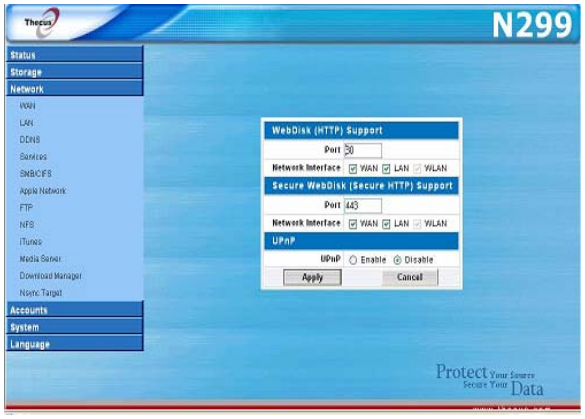
NOTE

Users should obey the international RF regulatory rules as they set up the wireless RF channel on the N299. The RF operating channels for different regions have been specified as following. Thecus has no responsibility for users attempting to violate the international RF regulation.

11	N. America
14	Japan
13	Europe (ETSI)
2	Spain
4	France

Web Services Configuration

From the **Network** menu, choose the ***Services*** item, and the **Web Service** screen appears. This screen displays the service support parameters of the system. You can change any of these items and press ***Apply*** to confirm your settings. A description of each item follows:



Web Service	
Item	**Description**
HTTP (WebDisk) Support	Enable or disable WebDisk support. Enter the port number if this option is enabled.
HTTPs (Secure WebDisk) Support	Enable or disable Secure WebDisk support. Enter the port if this option is enabled.
UPnP	Enable or disable Universal Plug and Play protocol. UPnP helps to find the IP address of the N299.

NOTE

Disable HTTP support and Enable Secure HTTP support to guarantee secure access.

Windows Network Configuration (SMB/CIFS)

The N299 can act as a Samba server, enabling users to share files using the SMB/CIFS protocol. From the **Network** menu, choose the ***SMB/CIFS*** item, and the **SMB/CIFS** screen appears. You can change any of these items and press ***Apply*** to confirm your settings. A description of each item follows:

SMB/CIFS	
Item	**Description**
Sharing	If you are using Microsoft Windows®, enable this service to access the files on the N299 by mapping a network drive.
WINS Server	Specify the WINS server IP address, if your network has a WINS server installed. The N299 will automatically register its name and IP address with WINS service.
Work Group / Domain Name	Enable or disable SMB/CIFS protocol for Windows, Apple, Unix drive mapping.

NOTE

- SMB/CIFS service also allows file sharing from Mac OSX and Linux platforms.
- Once a Mac OS accesses a share folder, it will create a file named .DS_Store, and directories named Temporary items, Network Trash Folder, .Apple Double, Apple Desktop and AppleDB in the share folder.

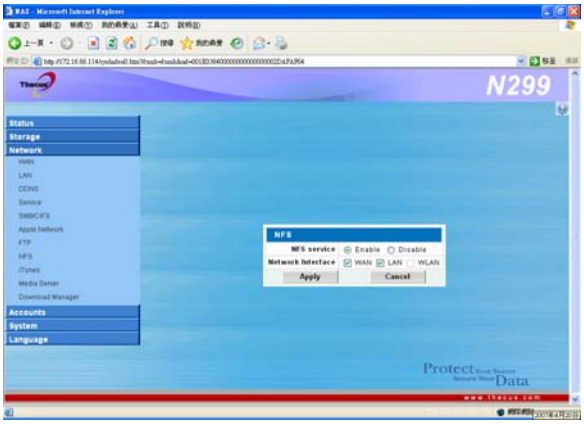
Apple Network Setup

From the **Network** menu, choose the ***Apple Network*** item, and the **Apple Network Configuration** screen appears. This screen displays the configuration items for the Apple Filing Protocol. You can change any of these items and press ***Apply*** to confirm your settings. A description of each item follows:

Apple Network Configuration	
Item	**Description**
Apple File Service	Enable Apple File Service to use the N299 on MAC OS-based system.
MAC CHARSET	If your operating system does not support Unicode (e.g. MAC OS9/8), select the same language as your OS here in order to properly view the files and directories on the server.
Zone	Specifies Zone for Applet Talk service. If your AppleTalk network uses extended networks and is assigned with multiple zones, assign a zone name to the N299. If you do not Want to assign a network zone, enter an asterisk (*) to use the default setting.

NFS Setup

From the **Network** menu, choose the ***NFS*** item, and the **NFS** server setting screen appears. The N299 can act as a NFS server, enabling users to download and upload files with their favorite NFS clients. Make your changes, and then click ***Apply*** to save them. Click ***Cancel*** to return to the main menu.



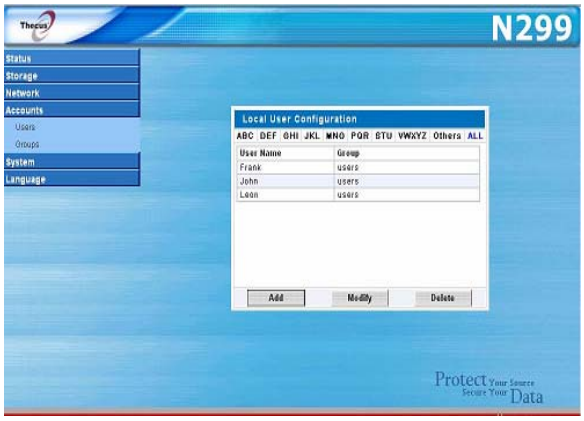
NFS	
Item	**Description**
NFS Service	Enable or disable NFS support
Network Interface	Select the network interface for NFS service.

User and Group Management

The N299 has built-in user database that allows administrators to manage user access using different group policies. From the **Accounts** menu, you can create, modify, and delete users, and assign them to groups that you designate.

Local User Configuration

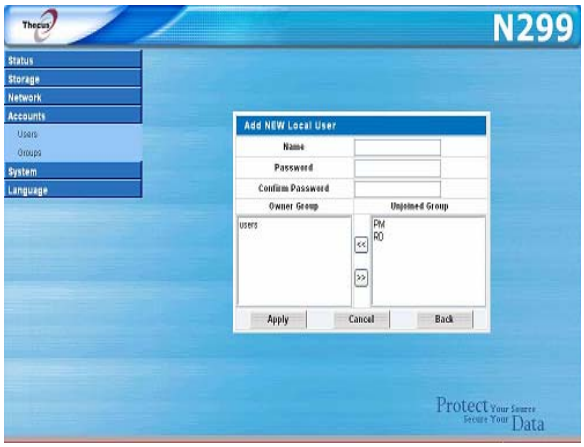
From the **Accounts** menu, choose the **Users** item, and the **Local User Configuration** screen appears. This screen allows you to **Add**, **Modify**, and **Delete** local users.



You can quickly find a particular user name by clicking one of the letter groupings at the top of the window. For example, to find a user name beginning with the letter M, click the ***MNO*** user group, and the user names beginning with M, N, or O will be listed. To see all names, click ***ALL***.

Local User Configuration	
Item	**Description**
User Name	Current user name.
Group	Group membership of current user name.
Add	Press the ***Add*** button to add a user to the list of local users.
Modify	Press the ***Modify*** button to modify a local user.
Delete	Press the ***Delete*** button to delete a selected user from the system.

Adding Users



1. Click on the ***Add*** button on **Local User Configuration** screen, and **Add NEW Local User** screen appears.

2. Enter a name in the **User Name** box.

3. Enter a password in the **Password** box and re-enter the password in the **Confirm Password** box.

4. Select which group the user will belong to. The **Owner Group** list is a list of groups this user belongs to. The **Unjoined Group** list is a list of groups this user does not belong to. Use the **<<** or **>>** buttons to have this user join or leave a group.

5. Press the ***Apply*** button and the user is created.

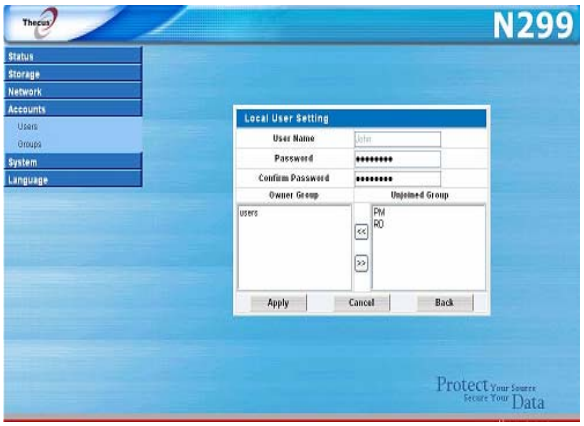
NOTE All users are automatically assigned to the 'users' group.

Modifying Users

1. Select an existing user from the **Local User Configuration** screen.

2. Click on the ***Modify*** button, and **Local User Setting** screen appears.

3. From here, you can enter a new password and re-enter to confirm, or use the **<<** or **>>** buttons to have this user join or leave a group. Click the ***Apply*** button to save your changes.



Deleting Users

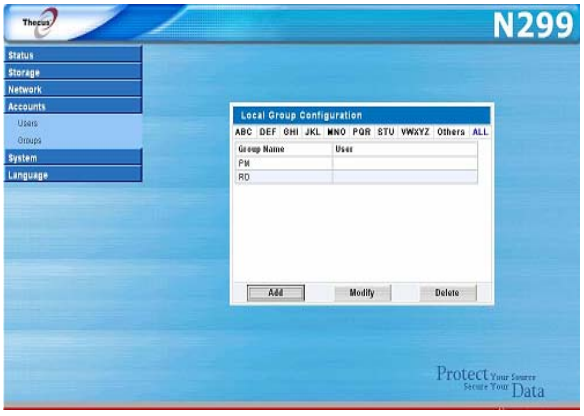
1. Select an existing user from the **Local User Configuration** screen.

2. Click on ***Delete*** button and the user is deleted from the system.

Local Groups Configuration

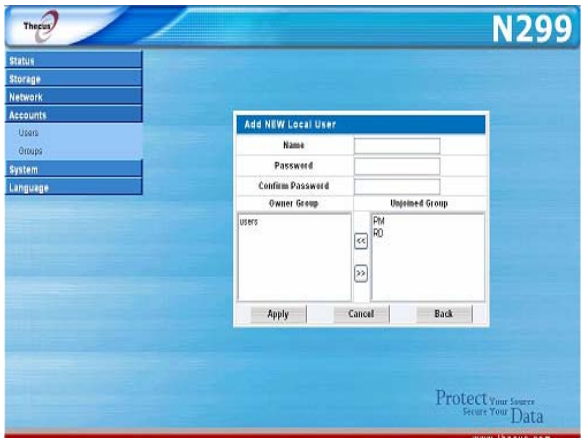
From the **Accounts** menu, choose the ***Groups*** item, and the **Local Group Configuration** screen appears. This screen allows you to **Add**, **Modify**, and **Delete** local groups.

You can quickly find a particular group by clicking one of the letter groupings at the top of the window. For example, to find a user name beginning with the letter M, click the ***DEF*** letter group, and the groups beginning with M, N, or O will be listed. To see all groups, click ***ALL***.



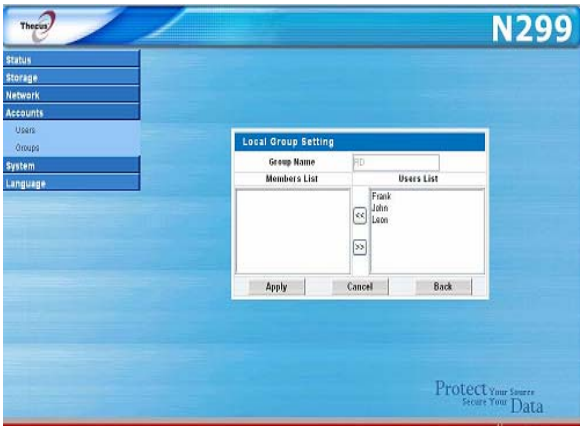
Local Groups Configuration	
Item	**Description**
Group Name	Current group name.
User	Users currently in current group.
Add	Press the ***Add*** button to add a user to the list of local groups.
Modify	Press the ***Modify*** button to delete a selected group from the system.
Delete	Press the ***Delete*** button to delete a selected group from the system.

Adding Groups



1. On the **Local Group Configuration** screen, click on the ***Add*** button.
2. The **Add NEW Local Group** screen appears.
3. Enter a **Group Name**, and select users to be in this group from the **Users List** by adding them to the **Members List** using the **<<** button.
4. Click the ***Apply*** button to save your changes.

Modifying Groups



1. On the **Local Group Configuration** screen, select a group name from the list.
2. Press the ***Modify*** button and the Local Group Setting screen appears.
3. To add a user into a group, select the user from the **Users List**, and press the **<<** button to move the user into the **Members List**.
4. To remove a user from a group, select the user from **Members List**, and press the **>>** button.
5. Click the ***Apply*** button to save your changes.

Deleting Groups

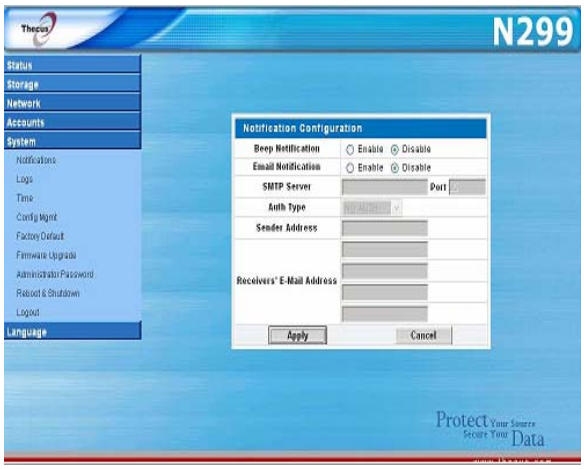
1. On the **Local Group Configuration** screen, select a group name from the list.
2. Press ***Delete*** to delete the group from the system.

System Management

The **System** menu gives you a wealth of settings that you can use to configure your N299's system administration functions. You can set up system notifications, view system logs, and even upgrade firmware from this menu.

System Notifications

From the **System** menu, choose the ***Notification*** item, and the **Notification Configuration** screen appears. This screen lets you have the N299 notify you in case of any system malfunction. Press ***Apply*** to confirm all settings. See following table for a detailed description of each item.

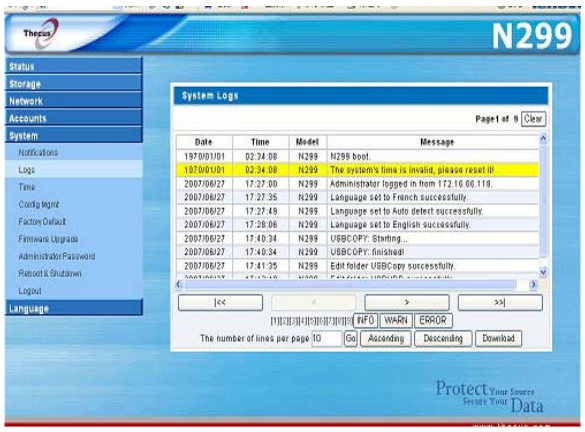


Notification Configuration	
Item	**Description**
Beep Notification	Enable or disable the system beeper that beeps when a problem occurs.
Email Notification	Enable or disable email notifications of system problems.
SMTP Server	Specifies the hostname/IP address of the SMTP server.
Port	Specifies the port to send outgoing notification emails.
Auth Type	Select the SMTP Server account authentication type.
Sender Address	Set the sender mail address.
Sender Password	Enter the password for the sender's mail account.
Confirm Password	Confirm a new password.
Receivers' E-mail Address	Add one or more recipient's email addresses to receive email notifications.
Send Test Mail	Click to send out a test e-mail to make sure the settings are correct.

NOTE Consult with your mail server administrator for email server information.

System Logs

From the **System** menu, choose the **Logs** item and the **System Logs** screen appears. This screen shows a history of system usage and important events such as disk status, network information, and system booting. See the following table for a detailed description of each item:



System Logs	
Item	**Description**
Truncate All Log File	Clear all log files.
|<< < > >>|	Use the forward (**> >>|**) and backward (**|<< <**) buttons to browse the log pages.
INFO	Provides all log information including warning messages and error messages.
WARN	Shows all warning messages and error messages.
ERROR	Shows only error messages.
GO	Specify the number of lines per page and press Go.
Ascending	Shows logs by date in ascending order.
Descending	Shows logs by date in descending order.
Download All Log File	Export all logs to an external file.

Time and Date Settings

From the **System** menu, choose the **Time** item and the **Time** screen appears. Set the desired **Date**, **Time**, and **Time Zone**. You can also elect to synchronize the system time on the N299 with an **NTP (Network Time Protocol) Server**. You can change any of these items and press ***Apply*** to confirm your settings. See the following table for a detailed description of each item:

Time	
Item	**Description**
Date	Sets the system date.
Time	Sets the system time.
Area	Select your area.
City	Select your city.
NTP Server	Select ***Yes*** to allow the N299 to synchronize with the NTP server shown below. Select ***Maually*** to allow the N299 to synchronize with an NTP server of your choice. Select ***No*** to not have the N299 to synchronize with an NTP server.

WARNING If an NTP server is selected, please make sure your N299's network has been setup to access the NTP server.

System Configuration Backup and Restore

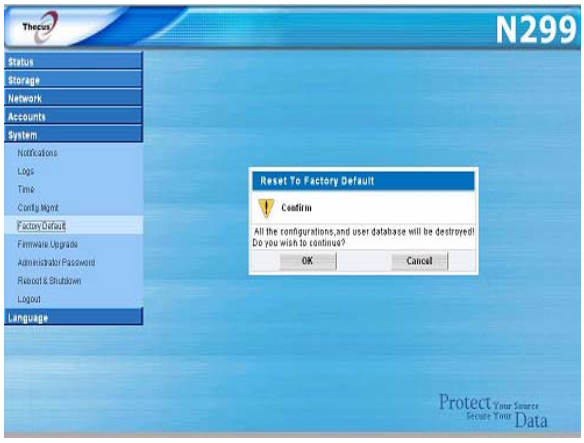
From the **System** menu, choose the ***Config Mgmt*** item and the **System Configuration Download / Upload** screen appears. From here, you can download or upload stored system configurations. See the following table for a detailed description of each item.

System Configuration Download / Upload	
Item	**Description**
Download	Save and export the current system configuration.
Browse	Click to browse the folder of your PC to locate the configuration files.
Upload	Import a saved configuration file to overwrite current system configuration.

NOTE Backing up your system configuration is a great way to ensure that you can revert to a working configuration when you are experimenting with new system settings.

Reset to Factory Default Settings

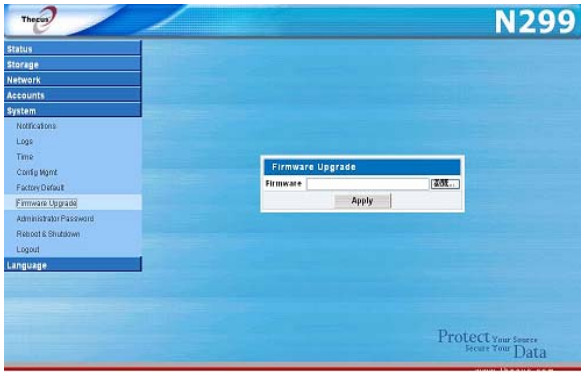
From the **System** menu, choose the ***Factory Default*** item and the **Reset to Factory Default** screen appears. Press ***Apply*** to reset the N299 to factory default settings. Press ***Cancel*** to go back to the main menu.



WARNING Resetting to factory defaults will not erase the data stored in the hard disks, but WILL revert all the settings to the factory default values.

Upgrading System Firmware

From the **System** menu, choose the ***Firmware Upgrade*** item and the **Firmware Upgrade** screen appears.



Follow the steps below to upgrade your firmware:

1. Use the ***Browse*** button to find the firmware file.
2. Press ***Apply***.
3. The beeper beeps and the Busy LED blinks until the upgrade is complete.

NOTE
- *The beeper only beeps if it is enabled in the System Notification menu.*
- *Check Thecus website for the latest firmware release and release notes.*

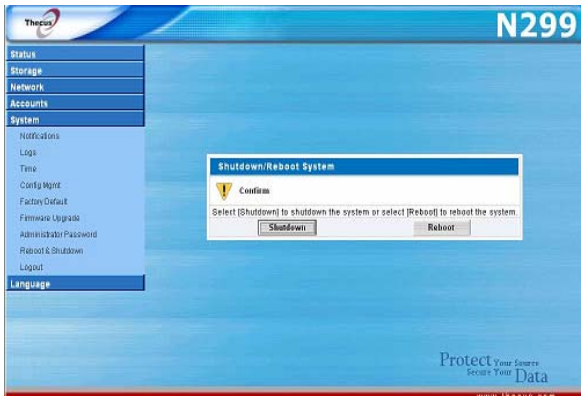
Change Administrator Password

From the **System** menu, choose the ***Administrator Password*** item and the **Change Administrator Password** screen appears. Enter a new password in the **New Password** box and confirm your new password in the **Confirm Password** box. Press ***Apply*** to confirm password changes. See the following table for a detailed description of each item.

Change Administrator Password	
Item	**Description**
Old Password	Type in the current administrator password.
New Password	Type in a new administrator password.
Confirm Password	Type the new password again to confirm.
Apply	Press this to save your changes.

Reboot and Shutdown System

From the **System** menu, choose **Reboot & Shutdown** item, and the **Shutdown/Reboot System** screen appears. Press ***Reboot*** to restart the system or ***Shutdown*** to turn the system off.



Logout

To logout of the Web Administration Interface, navigate to ***System*** > ***Logout***.